
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2007; month=11; day=25; hr=15; min=45; sec=10; ms=279;

Validated By CRFValidator v 1.0.3

Application No: 10561041 Version No: 1.0

Input Set:

Output Set:

Started: 2007-11-02 19:57:50.075

Finished: 2007-11-02 19:57:53.869

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 794 ms

Total Warnings: 42

No. of SeqIDs Defined: 44

Actual SeqID Count: 44

Total Errors:

Err	or code	Error Description
W	402	Undefined organism found in <213> in SEQ ID (1)
W	402	Undefined organism found in <213> in SEQ ID (2)
W	402	Undefined organism found in <213> in SEQ ID (3)
W	402	Undefined organism found in <213> in SEQ ID (4)
W	402	Undefined organism found in <213> in SEQ ID (5)
W	402	Undefined organism found in <213> in SEQ ID (6)
W	402	Undefined organism found in <213> in SEQ ID (7)
W	402	Undefined organism found in <213> in SEQ ID (8)
W	402	Undefined organism found in <213> in SEQ ID (9)
W	402	Undefined organism found in <213> in SEQ ID (10)
W	402	Undefined organism found in <213> in SEQ ID (13)
W	402	Undefined organism found in <213> in SEQ ID (14)
W	213	Artificial or Unknown found in <213> in SEQ ID (15)
W	213	Artificial or Unknown found in <213> in SEQ ID (16)
M	213	Artificial or Unknown found in <213> in SEQ ID (17)
W	213	Artificial or Unknown found in <213> in SEQ ID (18)
W	213	Artificial or Unknown found in <213> in SEQ ID (19)
M	213	Artificial or Unknown found in <213> in SEQ ID (20)
W	213	Artificial or Unknown found in <213> in SEQ ID (21)
W	213	Artificial or Unknown found in <213> in SEQ ID (22)

Input Set:

Output Set:

Started: 2007-11-02 19:57:50.075 **Finished:** 2007-11-02 19:57:53.869

Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 794 ms

Total Warnings: 42

Total Errors: 0

No. of SeqIDs Defined: 44

Actual SeqID Count: 44

Error code		Error Description
W	213	Artificial or Unknown found in <213> in SEQ ID (23)
W	213	Artificial or Unknown found in <213> in SEQ ID (24)
W	213	Artificial or Unknown found in <213> in SEQ ID (25)
W	213	Artificial or Unknown found in <213> in SEQ ID (26)
W	213	Artificial or Unknown found in <213> in SEQ ID (27)
W	213	Artificial or Unknown found in <213> in SEQ ID (28)
W	213	Artificial or Unknown found in <213> in SEQ ID (29)
W	213	Artificial or Unknown found in <213> in SEQ ID (30)
W	213	Artificial or Unknown found in <213> in SEQ ID (31)
W	213	Artificial or Unknown found in <213> in SEQ ID (32)
W	213	Artificial or Unknown found in <213> in SEQ ID (33)
W	213	Artificial or Unknown found in <213> in SEQ ID (34) This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

<110> MIYAWAKI, ATSUSHI TSUTSUI, HIDEKAZU KARASAWA, SATOSHI <120> FLUORESCENT PROTEIN AND CHROMOPROTEIN <130> P28993 <140> 10561041 <141> 2007-11-02 <150> PCT/JP04/08786 <151> 2004-06-16 <150> JP 2003-170324 <151> 2003-06-16 <150> JP 2003-170325 <151> 2003-06-16 <150> JP 2003-170326 <151> 2003-06-16 <150> JP 2003-170327 <151> 2003-06-16 <150> JP 2003-170328 <151> 2003-06-16 <150> JP 2003-170329 <151> 2003-06-16 <160> 44 <170> PatentIn Ver. 3.3 <210> 1 <211> 227 <212> PRT <213> Montipora sp. Met Ala Leu Ser Lys Arg Gly Val Lys Gly Glu Met Lys Leu Lys Phe 10 His Met Glu Gly Cys Val Asn Gly His Glu Phe Thr Ile Lys Gly Glu

Glu Lys Gly Gly Pro Leu Pro Phe Ser Val Asp Ile Leu Ser Ala Ala 50 55 60

Gly Thr Gly Gln Pro Tyr Glu Gly Thr Gln Cys Ile Gln Leu Arg Val

40

35

Phe Leu Tyr G	ly Asn Arg 70	Cys Met T	Thr Lys Tyr 75	Pro Gly Gly	Ile Val 80								
Asp Tyr Phe L	ys Asn Ser 85	Cys Pro A	Ala Gly Tyr 90	Thr Trp Glu	Arg Ser 95								
Phe Leu Phe G	lu Asp Gly)0		Cys Thr Ala	Ser Ala Asp	Ile Arg								
Leu Ser Val G	lu Asp Asn	Cys Phe T	Tyr His Glu	Ser Lys Phe 125	Ser Gly								
Val Asn Phe P	ro Val Asp	Gly Pro V 135	al Met Thr	Leu Ala Thr 140	Thr Gly								
Trp Glu Pro Se	er Ser Glu 150	Lys Met V	Val Pro Ser 155	Gly Gly Ile	Val Lys 160								
Gly Asp Val T	nr Met Tyr 165	Leu Leu L	Leu Lys Asp 170	Gly Gly Arg	Tyr Arg 175								
Cys Gln Phe A	sn Ser Asn 30		Ala Lys Thr .85	Glu Pro Lys 190	Glu Met								
Pro Asp Phe H.	is Phe Val	Glu His L 200	Lys Ile Val	Arg Thr Asp 205	Leu Gly								
Gly Arg Asp G	ln Lys Trp	Gln Leu V 215	Val Gly Asn	Ser Ala Ala 220	Cys Ala								
Ser Ala Phe 225													
<210> 2 <211> 684													
<212> DNA <213> Montipo:	ra sp.												
<220> <221> CDS <222> (1)(681)													
<400> 2													
atg gct ctt to Met Ala Leu So													
cat atg gag go His Met Glu G		Asn Gly H	_										
ggc act ggg co Gly Thr Gly G 35													

-					ttg Leu				-	-		_	-	-		192
					agg Arg 70	_	_								-	240
_			_		tca Ser	_		_					-			288
			_	_	ggc Gly			_		-	_	_	-		_	336
_	_	_		_	aac Asn	_				-		_		_		384
-				_	gat Asp				_		_		_			432
					gag Glu 150		_			_						480
	-	_		_	tac Tyr			_	_	-			_			528
_	_			_	aat Asn		_	_	_			_			_	576
	-				gtg Val			_		_			-			624
	-	-	_		tgg Trp		_					_	-	_	_	672
-	gct Ala	ttc Phe	taa													684
<213 <213	0> 3 1> 23 2> PI 3> Ac	RT	ora :	sp.												

Met Val Ser Tyr Ser Lys Gln Gly Ile Ala Gln Glu Met Lys Thr Lys 1 5 10 15

<400> 3

Tyr His Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly Val Ala Thr Gly Tyr Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val 40 Ile Ile Lys Pro Ala Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu 55 Ser Ser Val Phe His Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala 70 75 Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr 90 Glu Arg Ser Phe Leu Phe Glu Asp Gly Ala Val Ala Thr Ala Ser Trp 100 105 Asn Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Phe His 115 120 Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile 130 135 140 Asp Trp Glu Lys Ser Phe Glu Lys Met Thr Val Ser Lys Glu Val Leu 145 150 155 Arg Gly Asp Val Thr Met Phe Leu Met Leu Glu Gly Gly Gly Ser His 165 170 Arg Cys Gln Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met 180 185 Pro Pro Asn His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly 195 200 Gln Ser Ala Lys Gly Phe Thr Val Lys Leu Glu Ala His Ala Val Ala 210 215 220 His Val Asn Pro Leu Lys Val Lys 225 230 <210> 4 <211> 699 <212> DNA <213> Acropora sp. <220> <221> CDS <222> (1)..(696) <400> 4 atg gtg tct tat tca aag caa ggc atc gca caa gaa atg aag acg aaa Met Val Ser Tyr Ser Lys Gln Gly Ile Ala Gln Glu Met Lys Thr Lys

10

15

1

5

	cat His	_	_		_	-				_		_		-		96
_	gca Ala						-			-	_		-			144
	atc Ile 50	_											_		_	192
	tca Ser	-							-			_			-	240
Asp	atg Met	Pro	Asp	Tyr 85	Phe	Lys	Gln	Ala	Phe 90	Pro	Asp	Gly	Met	Ser 95	Tyr	288
Glu	agg Arg	Ser	Phe 100	Leu	Phe	Glu	Asp	Gly 105	Ala	Val	Ala	Thr	Ala 110	Ser	Trp	336
Asn	att	Arg 115	Leu	Glu	Gly	Asn	Cys 120	Phe	Ile	His	Asn	Ser 125	Ile	Phe	His	384
Gly	gta Val 130	Asn	Phe	Pro	Ala	Asp 135	Gly	Pro	Val	Met	Lys 140	Lys	Gln	Thr	Ile	432
Asp	tgg Trp	Glu	Lys	Ser	Phe 150	Glu	Lys	Met	Thr	Val 155	Ser	Lys	Glu	Val	Leu 160	480
Arg	ggt	Asp	Val	Thr 165	Met	Phe	Leu	Met	Leu 170	Glu	Gly	Gly	Gly	Ser 175	His	528
Arg	tgc Cys	_									_	_	-	-	-	576
CCC	~~-	t	a - +	~+ -·	~+ -	~ -	a - +	a	~++	~+ -·	2 ~	~~-	~~=	a++	~~~	624
Pro	ccg Pro	Asn 195	His	Val	Val	Glu	His 200	Gln	Ile	Val	Arg	Thr 205	Asp	Leu	Gly	624
Pro caa Gln	_	Asn 195 gca Ala	His aaa Lys	Val ggc Gly	Val ttt Phe	Glu aca Thr 215	His 200 gtc Val	Gln aag Lys	Ile ctg	Val gaa	Arg	Thr 205 cat	Asp	Leu gtg	Gly	624672699

```
<210> 5
```

<211> 232

<212> PRT

<213> Acropora sp.

<400> 5

Met Val Ser Tyr Ser Lys Gln Gly Ile Ala Gln Glu Met Arg Thr Lys

1 5 10 15

Tyr Arg Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly
20 25 30

Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val
35 40 45

Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu 50 55 60

Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala 65 70 75 80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr 85 90 95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp 100 105 110

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His 115 120 125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile 130 135 140

Arg Gly Asp Val Thr Gln Phe Leu Leu Glu Gly Gly Gly Tyr Gln
165 170 175

Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met 180 185 190

Pro Pro Ser His Val Val Glu His Gln Ile Val Arg Thr Asp Leu Gly 195 200 205

Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala 210 215 220

His Val Asn Pro Leu Lys Val Lys

<210> 6

<211> 699

<212> DNA

<213> Acropora sp.

< 400)> 6															
_					_				_		_	_	cgg Arg	_		48
	_	_	-		_	_				-		_	atc Ile 30	-		96
_							_			_	_		gaa Glu		, ,	144
		_		_									gac Asp		-	192
		-						-	-			_	tac Tyr		_	240
-	_		_			_		_			_		atg Met			288
													gcc Ala 110			336
_		_		-			_						atc Ile			384
	_				_	_			_	_	_	_	cag Gln			432
		_	_			_		_	_		_		gag Glu			480
_		_			_			_		_			ggt Gly		_	528
_	-								_		_		gtc Val 190	-	_	576
	_	_		_	-	_							gac Asp			624

caa act gca aaa ggc ttc aag gtc aag ctg gaa gaa cat gct gag gct Gln Thr Ala Lys Gly Phe Lys Val Lys Leu Glu Glu His Ala Glu Ala

672

699

210 215

cat gtt aac cct ttg aag gtt aaa taa His Val Asn Pro Leu Lys Val Lys

225 230

<210> 7

<211> 232

<212> PRT

<213> Acropora sp.

<400> 7

Met Val Ser Tyr Ser Lys Gln Gly Ile Ala Gln Glu Met Arg Thr Lys 1 5 10 15

Tyr Arg Met Glu Gly Ser Val Asn Gly His Glu Phe Thr Ile Glu Gly 20 25 30

Val Gly Thr Gly Asn Pro Tyr Glu Gly Lys Gln Met Ser Glu Leu Val 35 40 45

Ile Ile Lys Ser Lys Gly Lys Pro Leu Pro Phe Ser Phe Asp Ile Leu 50 55

Ser Thr Ala Phe Gln Tyr Gly Asn Arg Cys Phe Thr Lys Tyr Pro Ala 65 70 75 80

Asp Met Pro Asp Tyr Phe Lys Gln Ala Phe Pro Asp Gly Met Ser Tyr

85 90 95

Glu Arg Ser Phe Leu Phe Glu Asp Gly Gly Val Ala Thr Ala Ser Trp 100 105 110

Ser Ile Arg Leu Glu Gly Asn Cys Phe Ile His Asn Ser Ile Tyr His 115 120 125

Gly Val Asn Phe Pro Ala Asp Gly Pro Val Met Lys Lys Gln Thr Ile 130 135 140

Arg Gly Asp Val Thr His Phe Leu Leu Leu Glu Gly Gly Gly Tyr Gln 165 170 175

Arg Cys Arg Phe His Ser Thr Tyr Lys Thr Glu Lys Pro Val Ala Met 180 185 190

Pro Pro Ser His Val Val Glu His